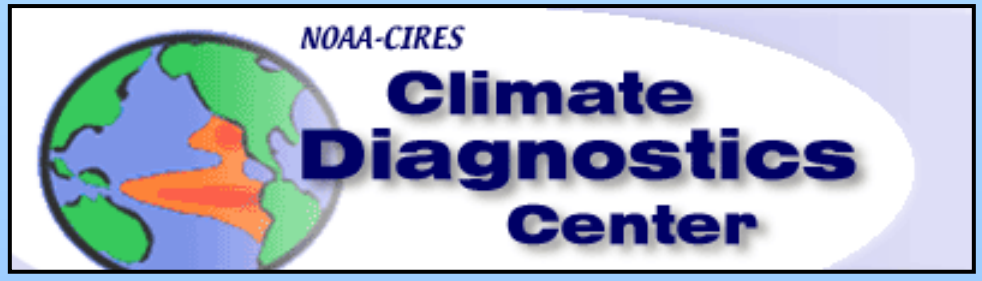
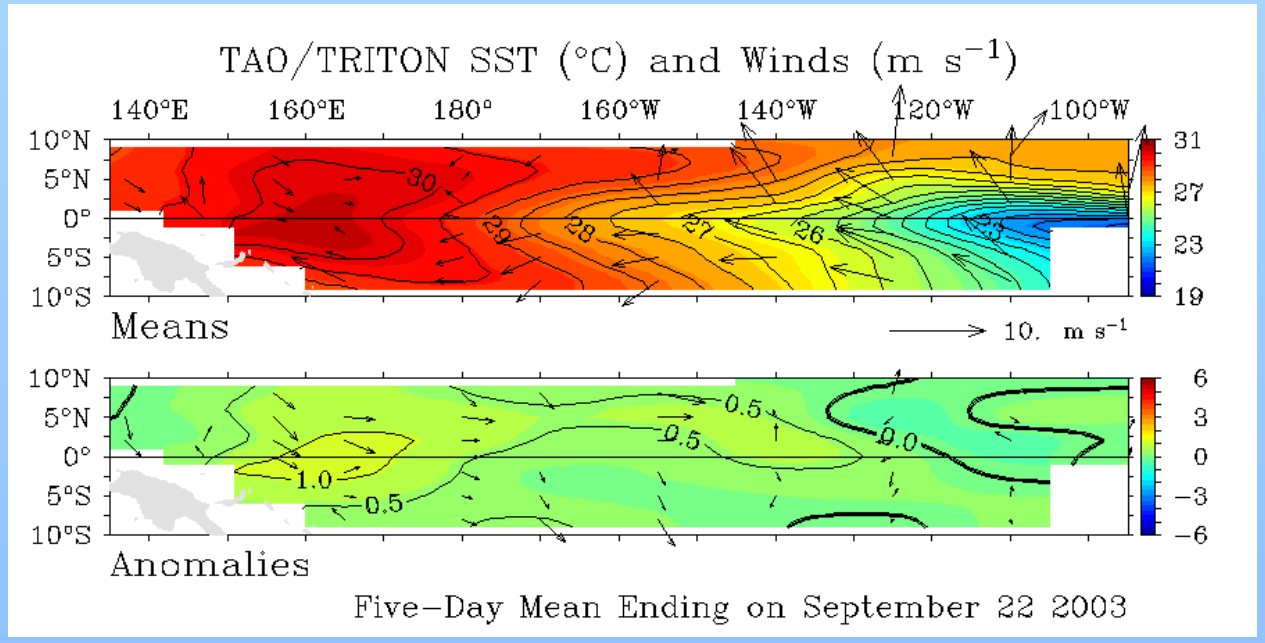
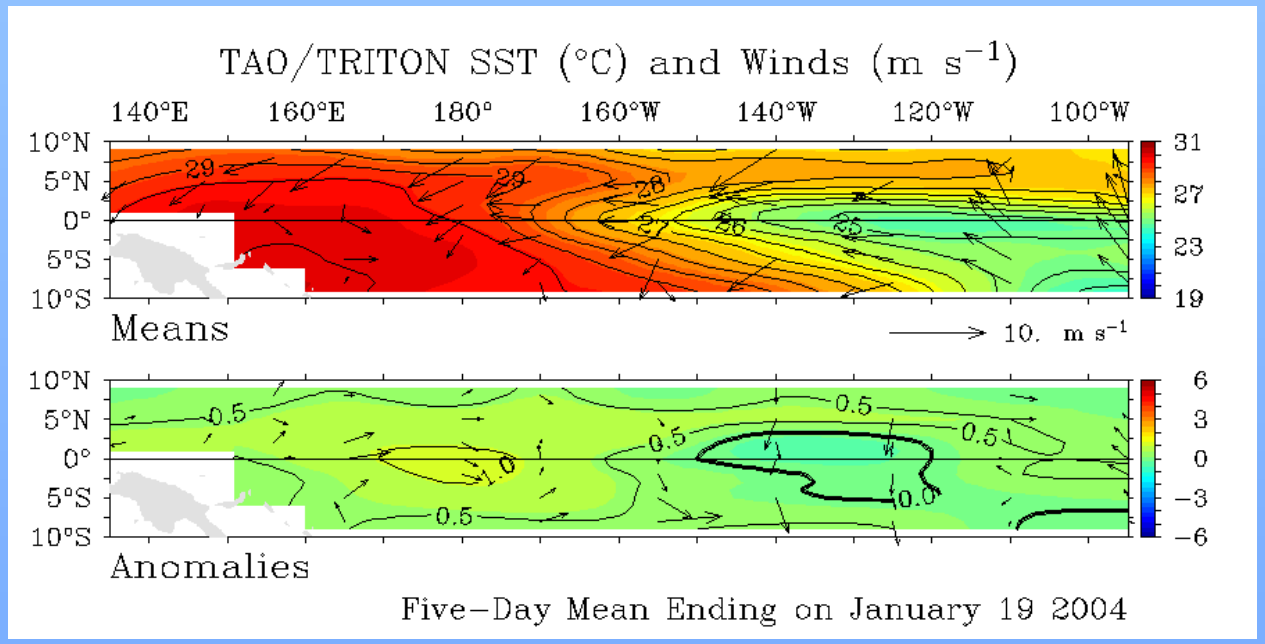


Seasonal Outlook for 1st half of 2004

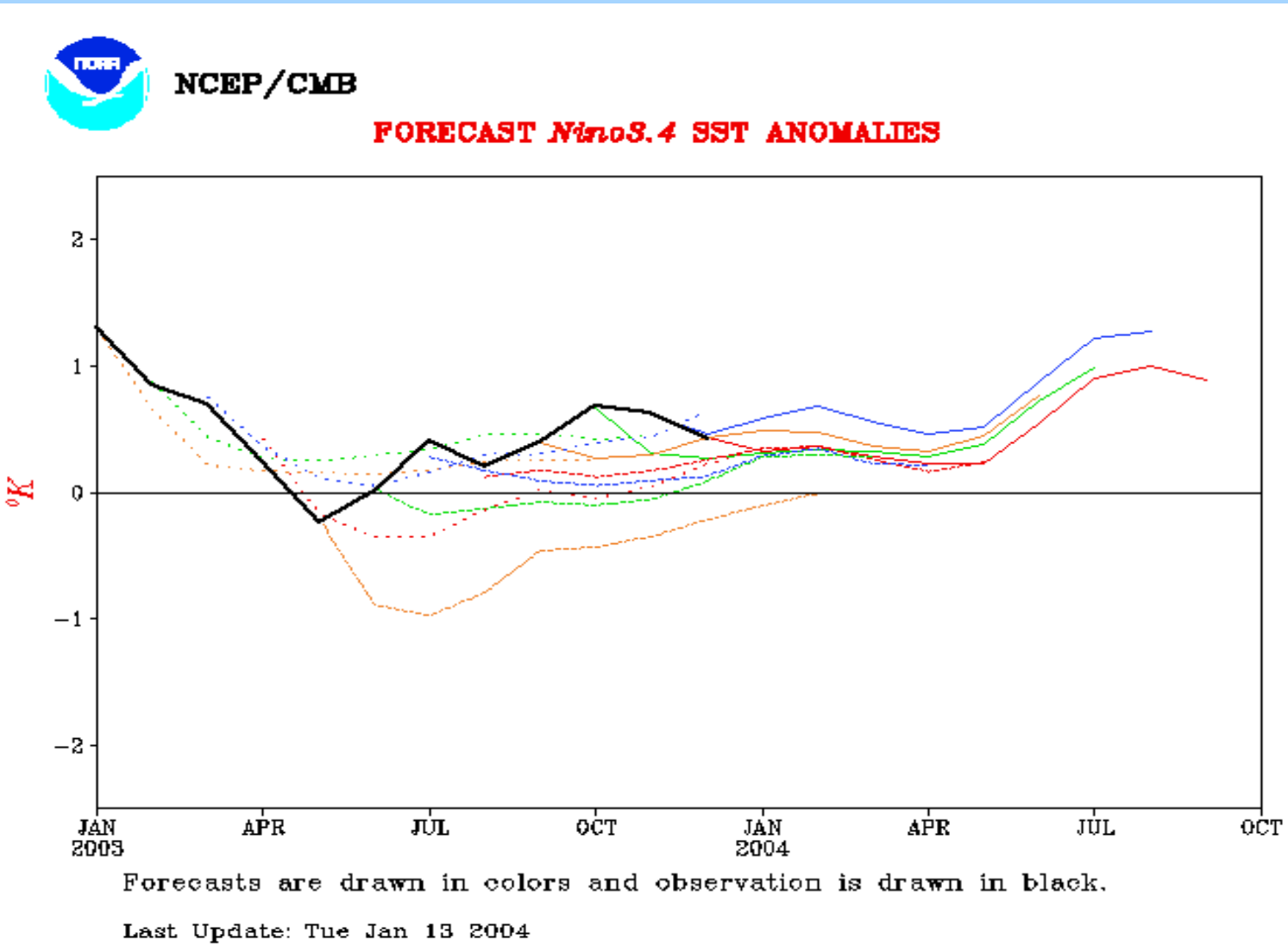
Klaus Wolter
NOAA-CIRES Climate Diagnostics Center
klaus.wolter@noaa.gov

- **ENSO: Status and Prospects**
- **Background Info**
- **Official CPC forecast**
- **Experimental forecasts**
- **Executive Summary**

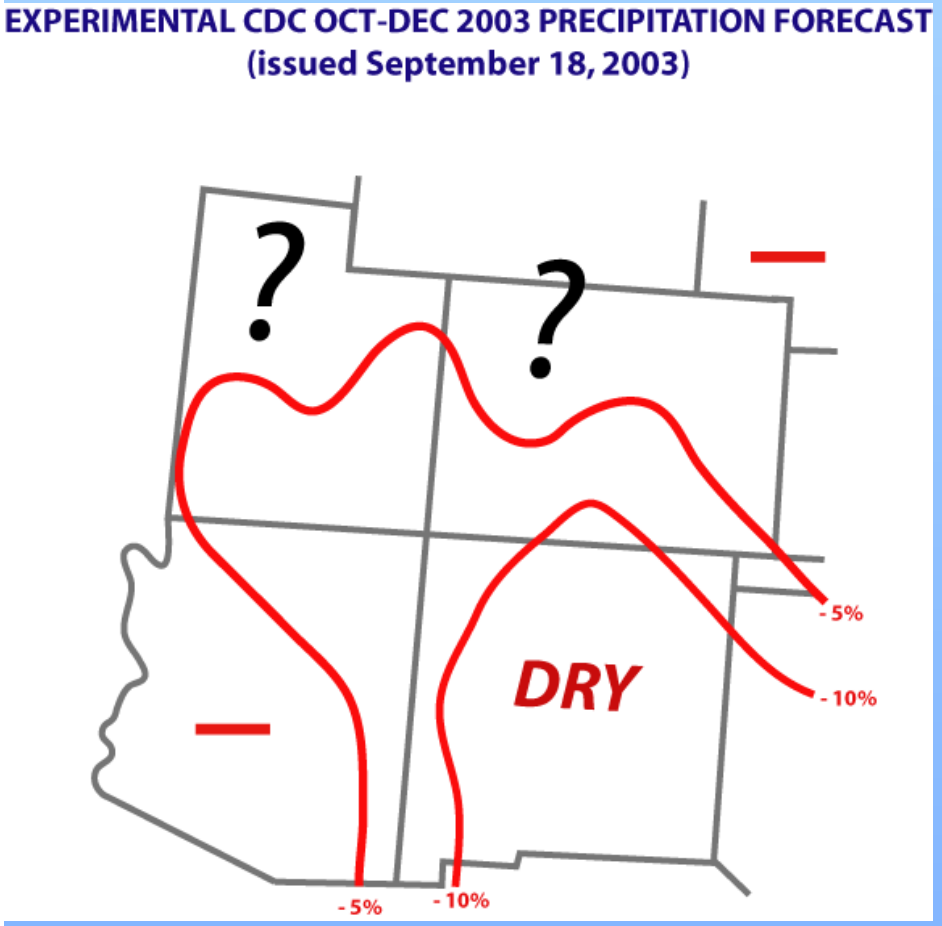


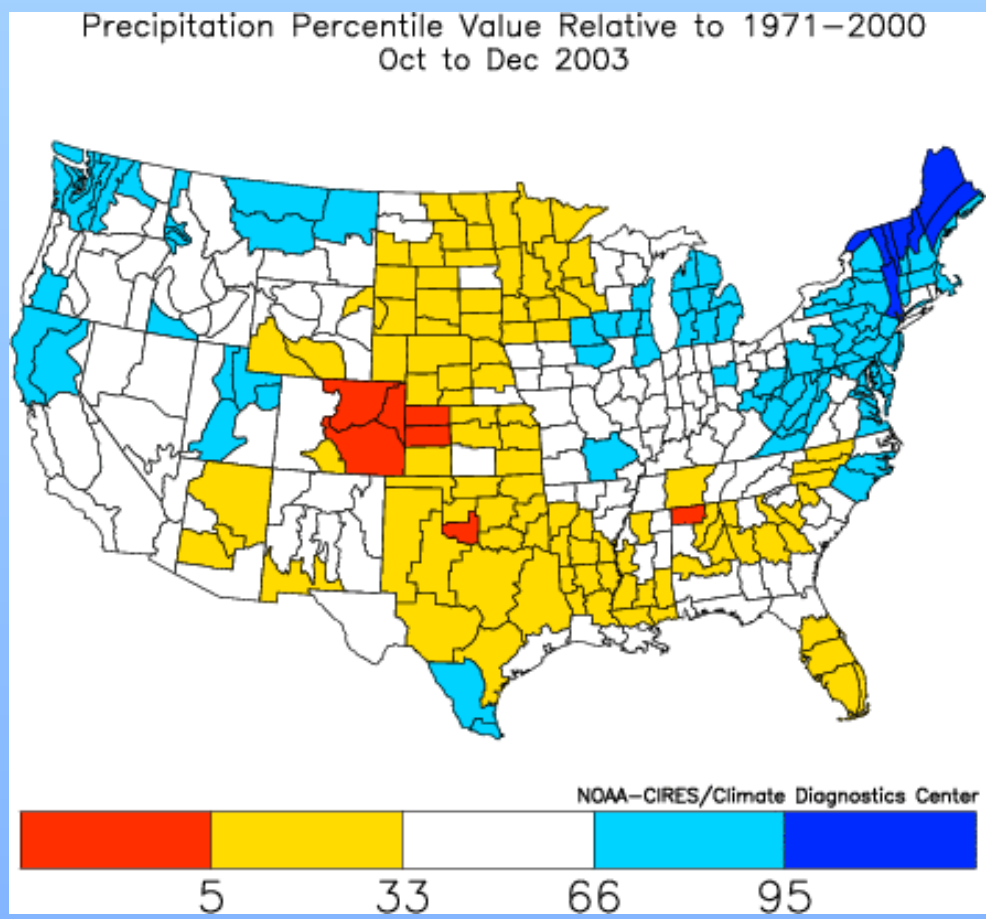


Current state of ENSO compared to last Fall (continued borderline El Niño)



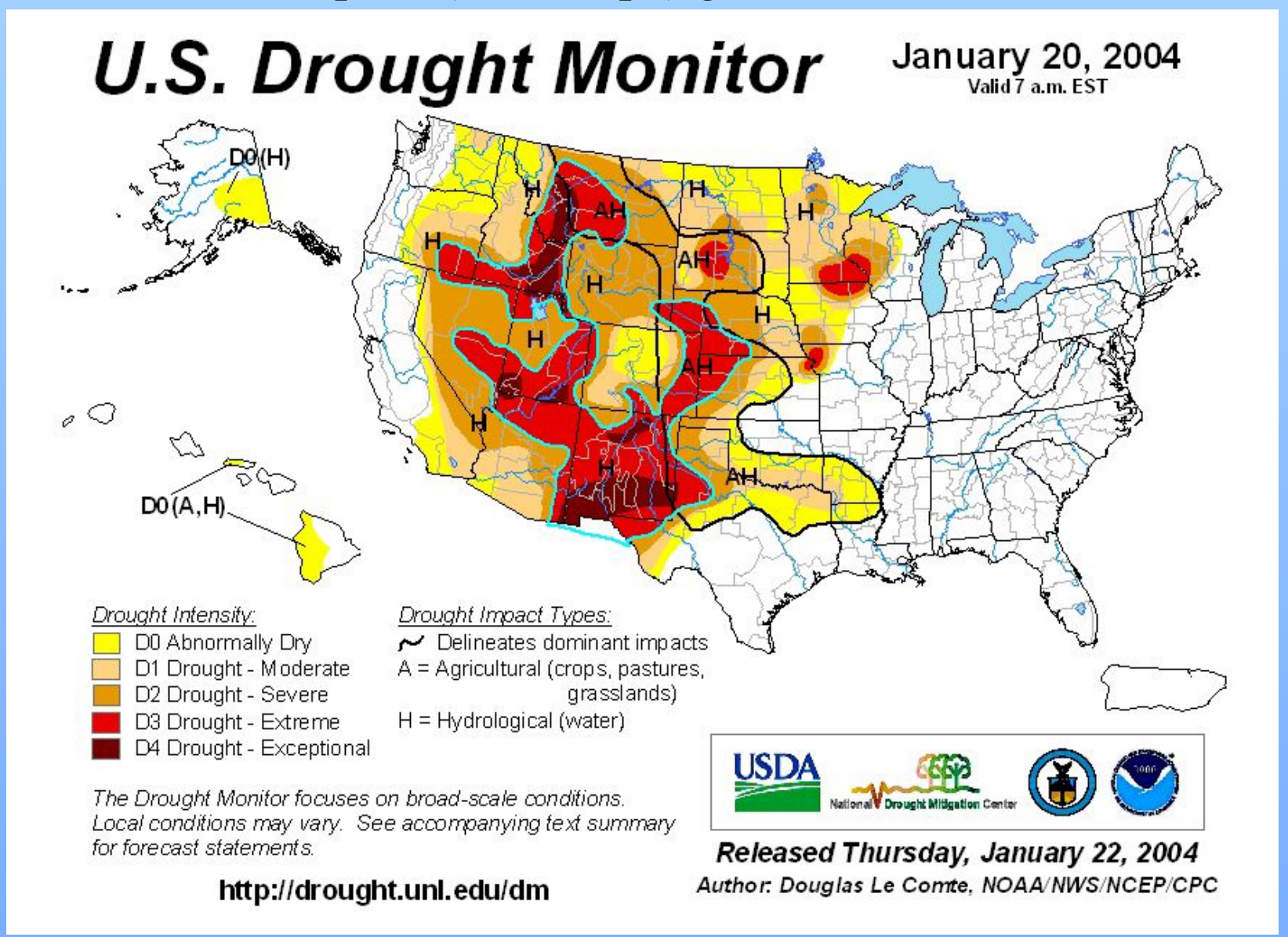
NCEP Coupled model performance and outlook into 2004



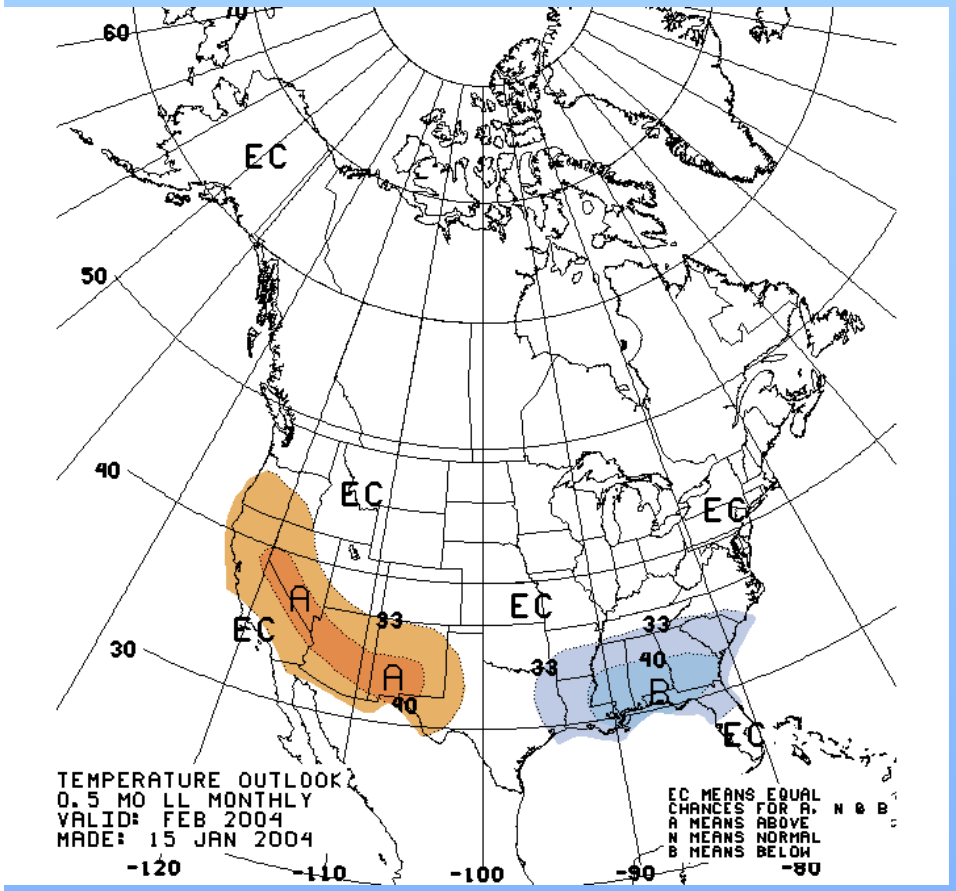


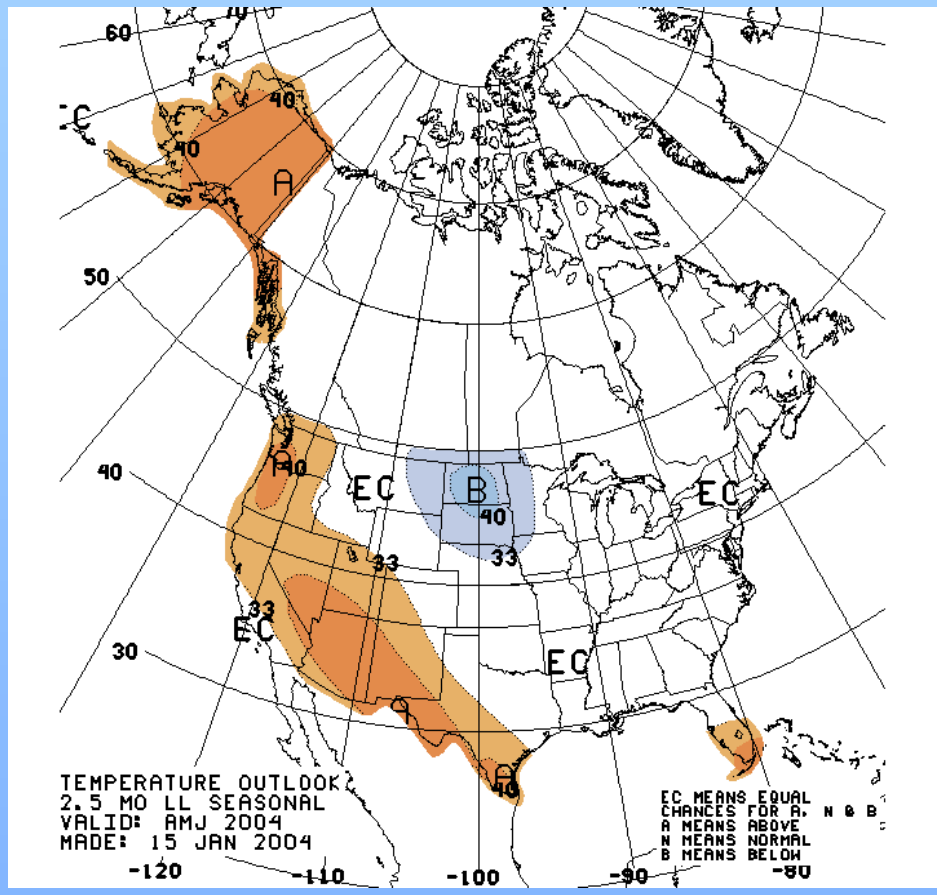
Preliminary verification for my Oct-Dec'03 forecast: right sense (dry) in much of the forecast domain; best match in Arizona, very dry in eastern Colorado; despite a dry spell in October, most of our mountains did well.

In last four months, ‘the rich (east slope) got poorer, while the poor (west slope) got richer’…



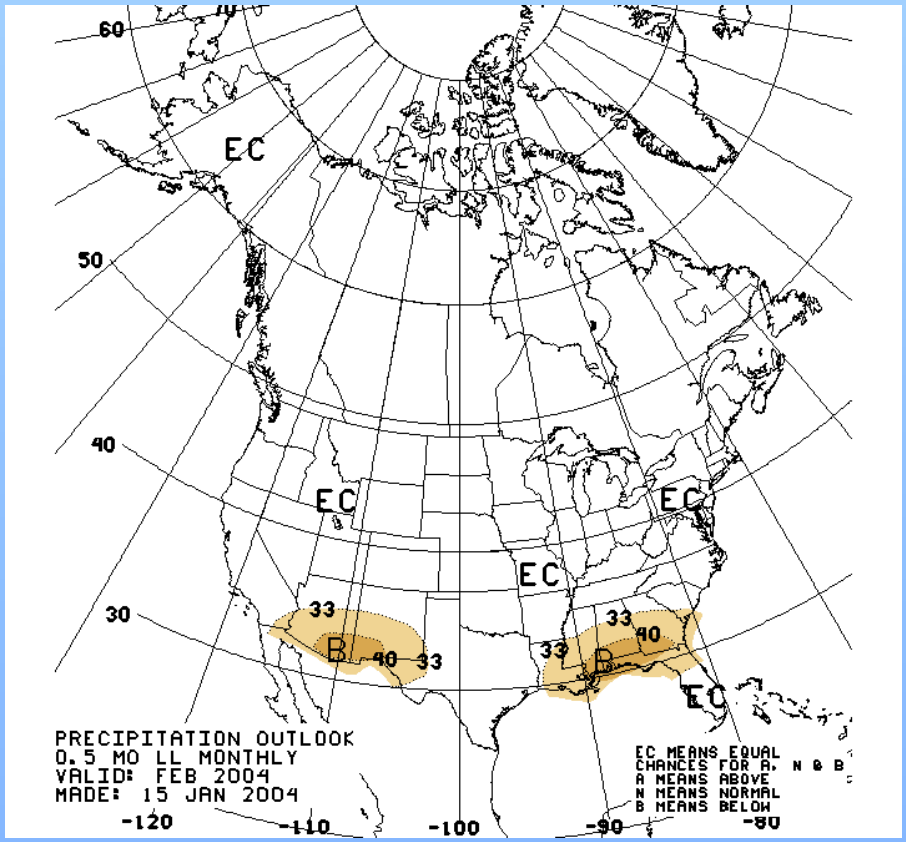
Temperature Forecasts (CPC)

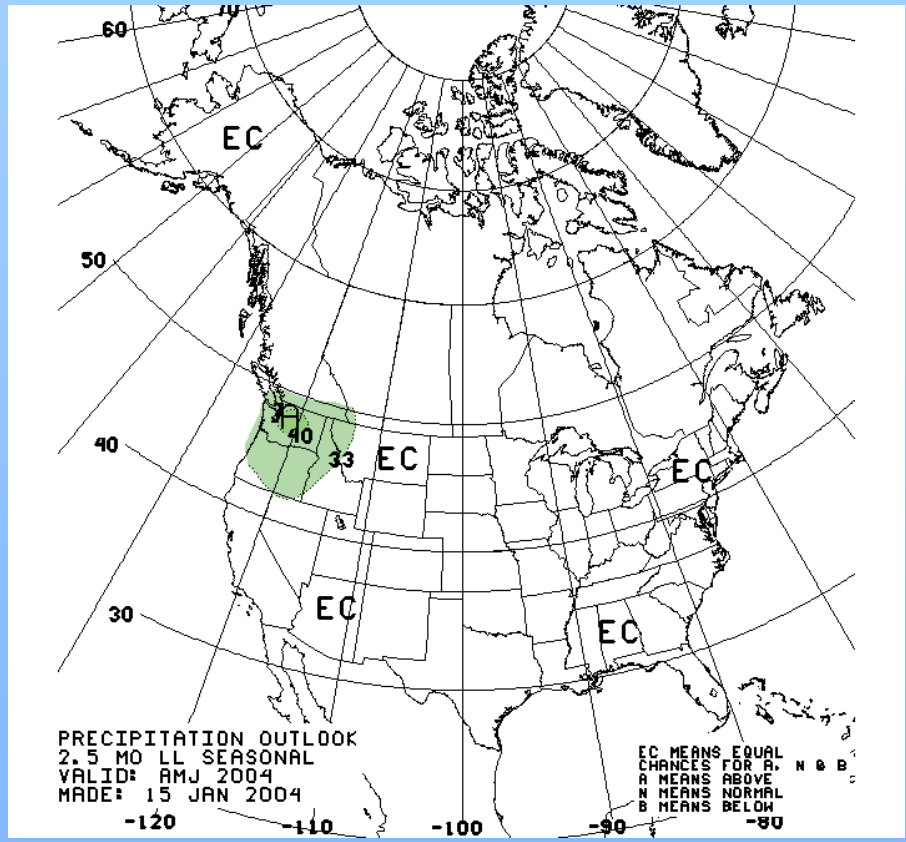




According to CPC, Colorado does not show a preference for warmer or colder than normal temperatures into late spring, except for a tendency towards above average temperature in the SW quarter of the state.

Precipitation Forecasts (CPC)

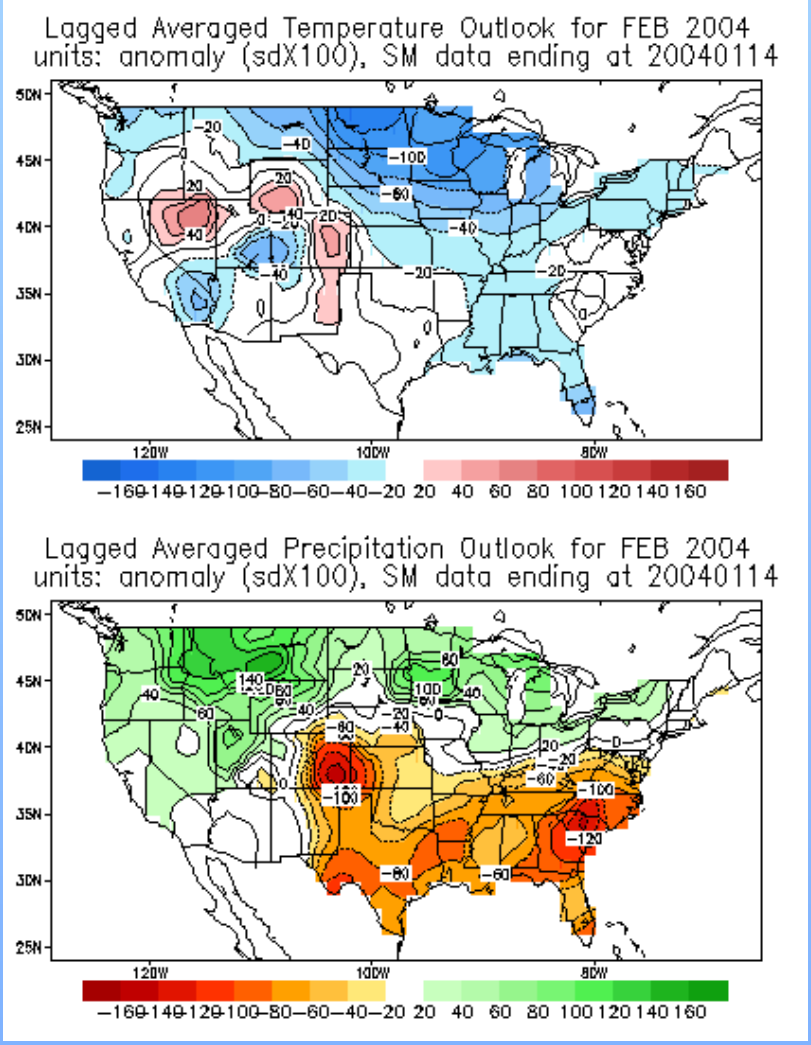


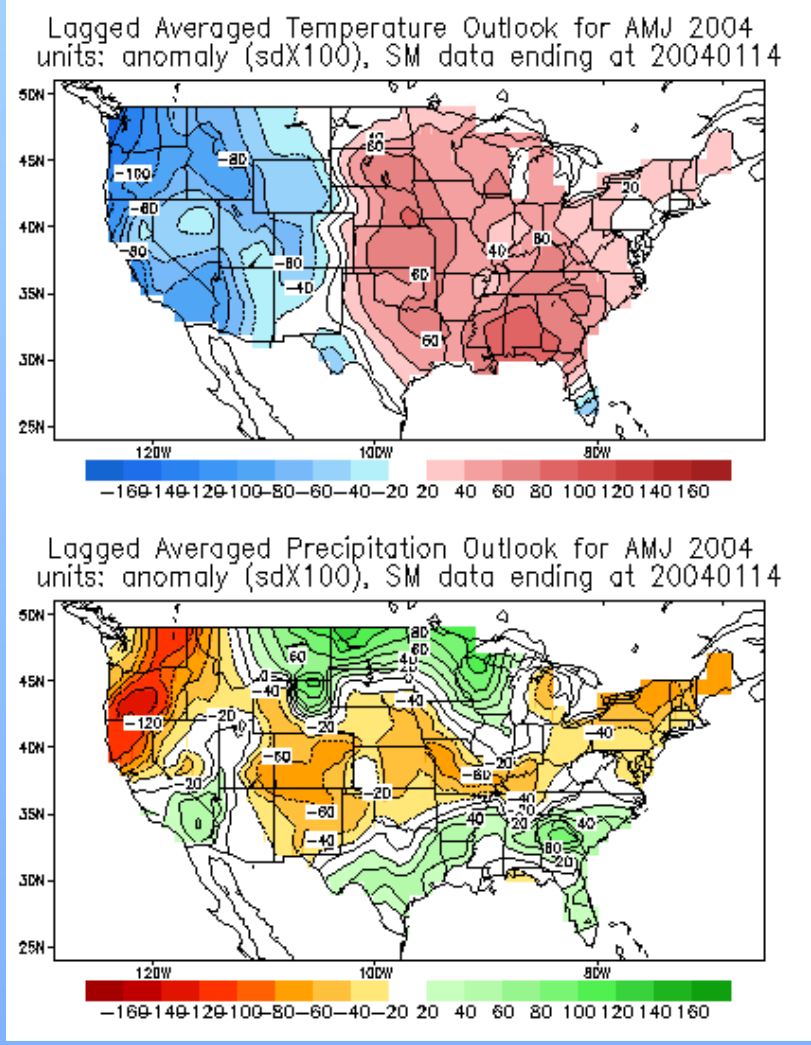


CPC continues to show no tilt in the odds for Colorado moisture through the next half year or so. However, Feb-Apr forecasts (not shown here) continue to place southwest Colorado under the greatest (if marginal) threat of below-normal precipitation.

Source (for CPC forecasts): http://www.cpc.ncep.noaa.gov/products/forecasts/

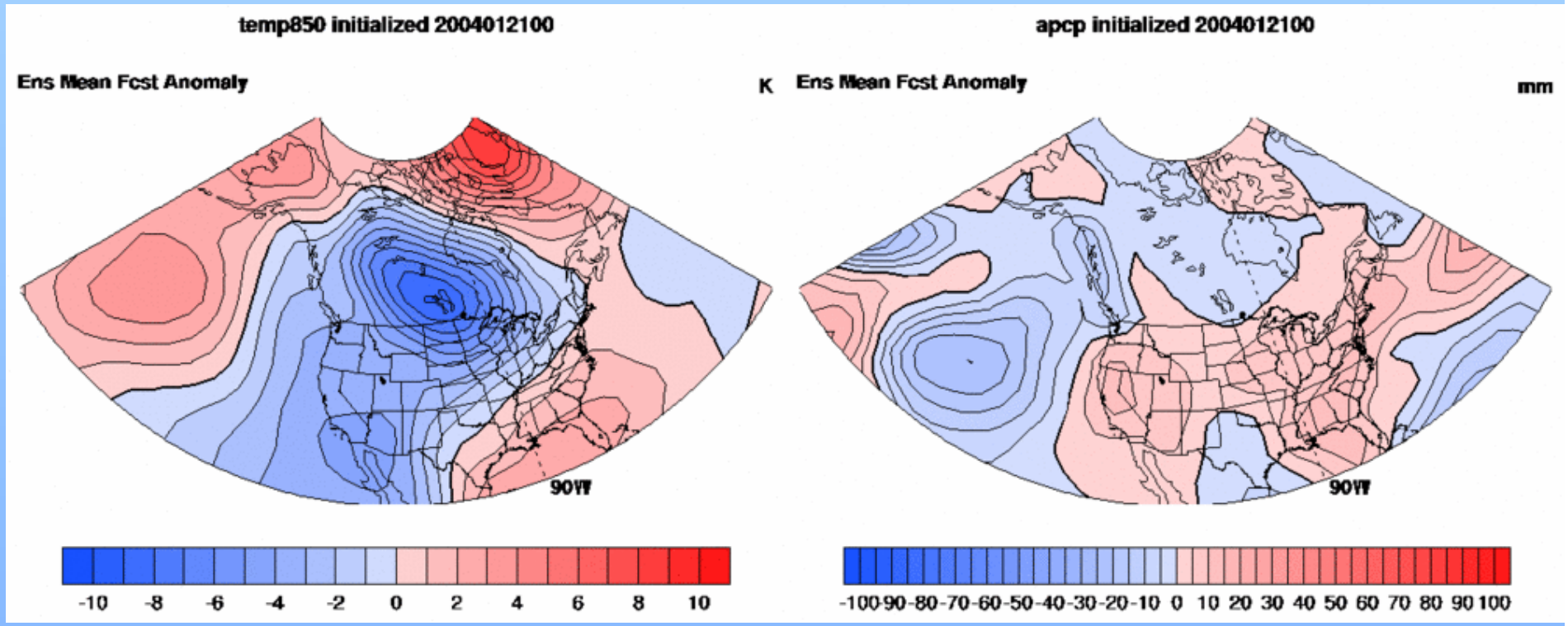
Soil Moisture Analog Forecasts





For the next five months, this tool predicts relatively dry & warm conditions for eastern Colorado, while western Colorado faces more benign odds.

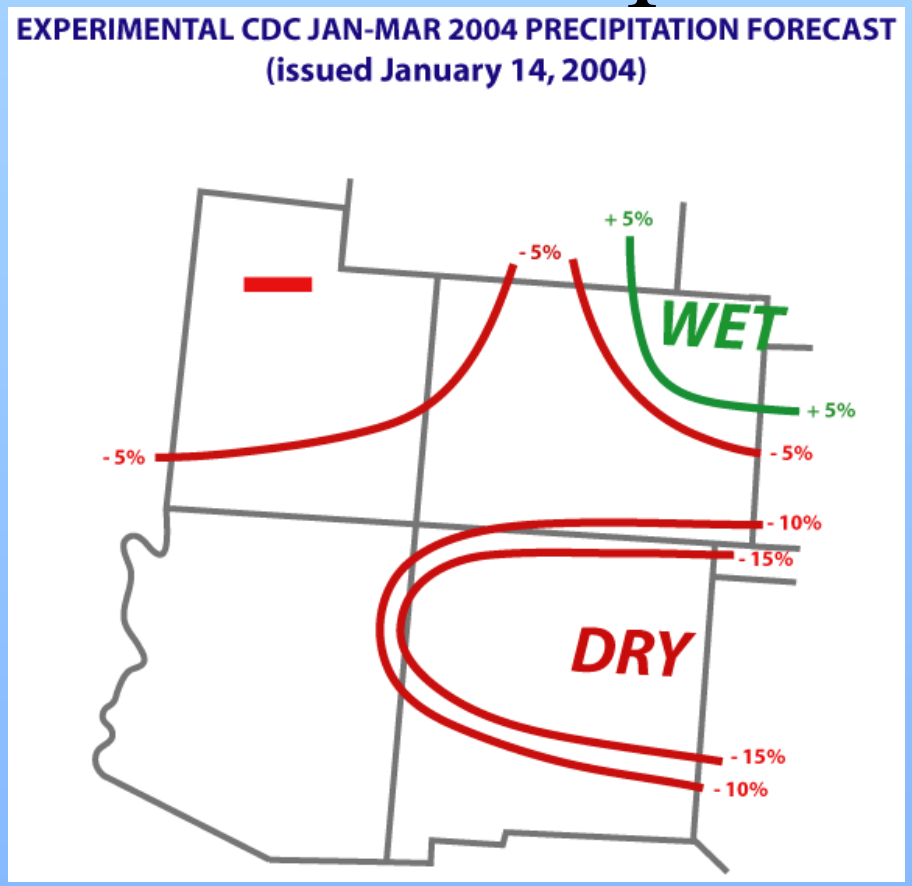
8-14d. Forecast (28jan-4feb)

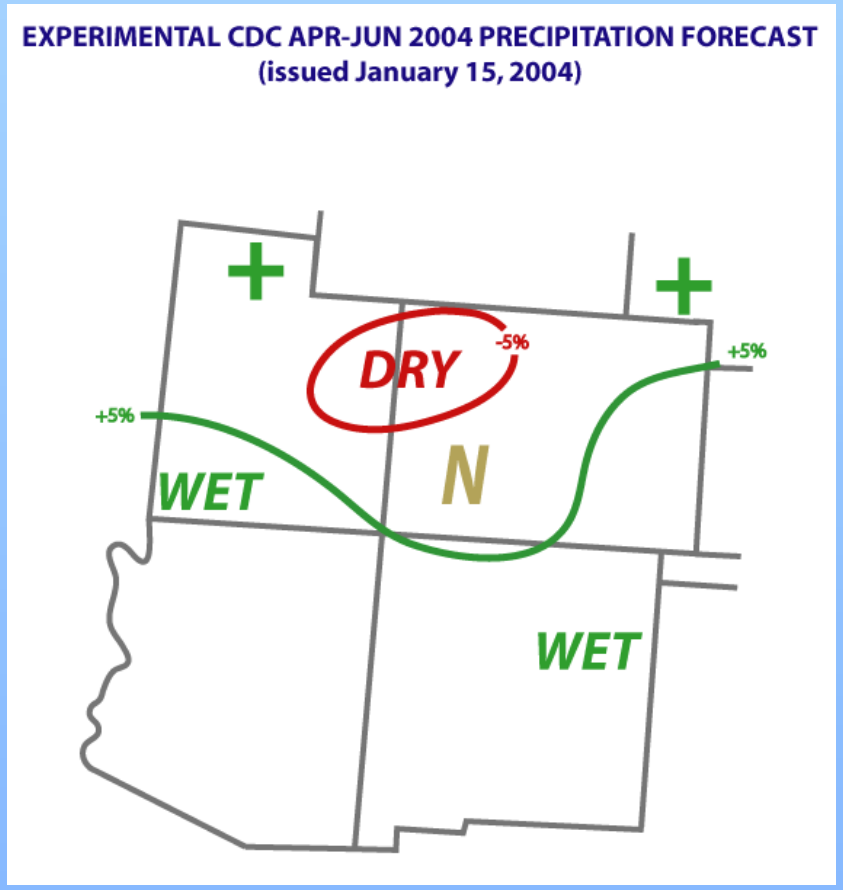


Starting early next week, calibrated weather forecasts show a wintery pattern for much of the western U.S., with a deep trough over us that allows for arctic air to spill into Colorado, and enough moisture entering from the west coast to allow for above-normal snowfall over the western half of Colorado in particular. The odds for this scenario are not as extreme as for last year's March storm, but better than 50%.

Source: http://www.cdc.noaa.gov/~jsw/refcst/week2/

Latest experimental forecasts





For the first quarter of 2004, my latest forecast places most of Colorado under a slight threat of renewed drought conditions, while the northeastern plains have a better chance of getting above-normal moisture for the remainder of the winter season. The forecast for April-June 2004 is more optimistic, and gives all but northwestern Colorado better-than-normal odds of at least average moisture.

Source: *http://www.cdc.noaa.gov/~kew/SWcasts/*

Executive Summary (21 January 2004)

1. The most recent El Niño event - declared over in June - is still trying to make a comeback. Weak El Niño conditions are the safest bet for the next few months, but I would not be surprised to see El Niño return in force later this year. However, it is not likely that it will play a role before spring is over.

2. If it had not been for this year's wet spring, 2003 would go into the history books as yet another drought year in much of Colorado. The last three months have been particularly dry over eastern Colorado, while western Colorado has received the lion's share of the moisture since the storm season started in late October, leading to a decent snowpack everywhere but the Front Range.

3. My experimental forecasts for January through March 2004 advertises below-normal precipitation for most of the forecast domain, in particular New Mexico, while the northeastern plains feature a modest tilt of the odds towards receiving above-normal moisture. Compared to earlier forecasts, this one is drier than initially expected. Looking at the upcoming spring season (April-June 2004), all but northwestern Colorado and most of the adjacent states show near-normal or even slightly wetter-than-normal odds, an upward trend compared to last month's initial forecast.

4. Bottomline: The dry fall of 2003 has erased some of the gains made through a wet spring in Northeast Colorado. For early 2004, the odds are not favorable for a wet late winter in much of Colorado. Meanwhile, New Mexico appears locked in severe drought conditions, while Utah and Arizona have mild drought odds, similar to Colorado. For April-June 2004, the northwestern plateau of Colorado is flagged as a potential drought trouble spot, while the remainder of Colorado, New Mexico, Utah, and Arizona have better than normal odds of receiving at least average moisture. The sooner El Niño makes a comeback, the better the odds for a wet late spring and summer, but the jury is still out on that.